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**Constriction of twigs by bag-worm.**—VON SCHRENK publishes an account of interesting observations made by him on the constriction and consequent deformation or death of twigs, produced by the bands, about 3<sup>mm</sup> wide, spun by the bag-worm (*Thyridopteryx ephemeraejormis* Haworth) for suspending its cocoon in late summer from the slender twigs, 3<sup>mm</sup> in diameter or thereabouts, of various deciduous and evergreen trees. Most of these bands are burst by the renewed growth of the twig in the second year of its age and the “bag” drops off; but 1.5–2 per cent. of the bands are too strong, and by resisting growth cause a deformity in the region of the girdle. VON SCHRENK has studied the anatomical changes produced, and the pressure to which, by its own growth, the twig is subjected. This he believes is two or three times the 15 atmospheres given by KRABBE as the pressure under which growth may continue. VON SCHRENK, however, bases his conclusions upon the breaking strength of the band, which indicated in tests of 400 a possible radial pressure of 4 to 162 atmospheres, the majority running from 14 to 44. The tested bands, however, were those not broken by the twig, and it is quite possible that the pressure due to growth reaches a maximum which was insufficient to rupture the band (perhaps far too little), but adequate to stop further growth under it.

The argument that the excessive growth on one or both sides of the girdle is due to the fact that “the band has evidently stopped the passage of plastic materials through the bark absolutely,” or partly, or temporarily, and “as a result of this an accumulation of these substances has taken place and the cambium layer . . . has formed . . . cells to an enormous degree, as a result of which the outer part of the twig has grown very much in diameter,” is one that seems to put the cart before the horse. Is it not rather that this pressure acts as a stimulus and thus accelerates the growth of near-by cells, which itself brings to this place an adequate supply of food?—C. R. B.

**Chemotaxis.**—KNIEP, working in PFEFFER’s laboratory and using his well-known capillary-tube method, has sought to determine<sup>24</sup> whether various factors may strengthen or weaken or even abolish the sensitiveness of bacteria to definite reagents; and whether the variation in sensitiveness under such conditions holds for all chemical stimuli or is limited to certain ones, sensitiveness remaining unaltered toward others or being affected only by other conditions. He finds that definite alterations in the external conditions do excite or hinder at pleasure the reaction of certain bacteria to one group of substances, while the reaction to another is not affected. And this shows, he argues, that we have to do not merely with a chemical preceptivity, but with several; how many, is not known, for it is quite conceivable that different irritabilities possess a common property of being called out or released by the same change in the external conditions.

The changes thus effected in the sensitiveness of the bacteria may be themselves responses; and they may act by altering the intensity of stimulation or

<sup>24</sup> KNIEP, HANS, Untersuchungen über die Chemotaxis von Bakterien. Jahrb. Wiss. Bot. 43:215–270. 1906.